



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,687	08/24/2001	Boris Liberman	P-6126-US	3389
27130	7590	02/24/2005	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			LIANG, LEONARD S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/935,687		LIBERMAN, BORIS	
	Examiner		Art Unit	
	Leonard S. Liang		2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

Figures 3a, 4a-4b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- On page 4, lines 10-11, the specification states "using four the print heads and the support structure includes at least four the flat regions..." This is not correct grammar. It will be construed that the claim should state, "using four print heads and the support structure includes at least four flat regions..."
- On page 8, line 4, the phrase "to the" is repeated twice
- On page 10, line 10, the specification states "the flexible substrate and an the adjacent support..." It will be construed that the claim should state, "the flexible substrate and the adjacent support..."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 recites the limitation "said rectangles" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said support bars" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim (since claim 5 is dependent on claim 3 and not claim 4...there is no mention of support bars in claims 1-3).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2 and 6-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Keller et al (US Pat 6204871).

Keller et al discloses:

- {claim 1} A device upon which a flexible substrate is placed in order to be printed upon, the device being configured so as to create contact force between a supporting surface of the device and the flexible substrate (figure 1); a support structure configured so as to render the flexible substrate as a plurality of adjacent flat regions (flat regions defined as areas directly underneath individual

Art Unit: 2853

print heads), the flat regions being sequential along a feed path of the flexible substrate, each of the flat regions being positioned so that a vector following the feed path changes direction between the adjacent flat region in the sequence, the change of direction being a rotation about an axis that is perpendicular to the feed path and parallel to the surface of the flexible substrate, so that an entire surface of the plurality of flat regions, in combination, has a substantially convex profile (figure 1, reference 110; though mantle 110 is shown as a continuous strip, the examiner broadly interprets it as rendering the flexible substrate as a plurality of adjacent flat regions because the feed path vector along the surface of the substrate changes along the length of the substrate); a tensioning device configured so as to produce tension in the flexible substrate, the tension being along the feed path (figure 1, reference 160)

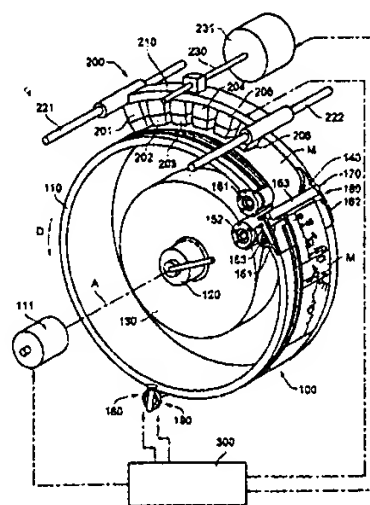


FIG. 1

- {claim 2} a digital printing device including a plurality of print heads, the support structure being configured so as to provide one flat region for each of the printing heads (figure 1, reference 200-206)

- {claim 6} wherein the support structure is a substantially continuous solid structure fabricated with a plurality of the flat regions (figure 1, reference 101)
- {claim 7} wherein the tensioning device is integral to a feed and take-up device which moves the flexible substrate across the support structure (figure 1, reference 160)
- {claim 8} A device for applying print media to a flexible substrate (figure 1); a support structure configured so as to have a substantially convex profile onto which the flexible substrate is placed (figure 1, reference 101); a tensioning device configured so as to produce tension in the flexible substrate, the tension being along a feed path (figure 1, reference 160); a plurality of print heads deployed so as to align each of the plurality of print heads with a corresponding printing region on the flexible substrate, the print heads defining a printing plane, the printing planes being rotated in relation to one another, the printing plane including the corresponding printing region (figure 1, reference 200-206)
- {claim 9} wherein the support structure is configured so as to render the flexible substrate as a plurality of adjacent flat regions, the printing plane being coincidental with the flat region (figure 1; where flat regions are defined as areas directly underneath individual print heads)
- {claim 10} wherein the support structure is configured so as to render the flexible substrate as a substantially continuous curve, the printing plane being tangential to the curve (figure 1, reference 101)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al (US Pat 6204871).

Keller et al discloses, with respect to claim 3, a device (as applied to claim 2 above).

Keller et al differs from the claimed invention in that it does not explicitly disclose wherein the printing device is a digital four color process printer using four print heads and the support structure includes at least four flat regions.

Keller et al discloses “The recording heads 201 to 206 can be differently constructed depending on the purpose of the device” (column 2, lines 45-46). One of ordinary skill in the art will appreciate that one of the most common purposes of using multiple printheads is to print in different colors. The use of different print colors is not explicitly stated, but it is implied.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Keller et al. The motivation for the skilled artisan in doing so is to gain the benefit of printing high performance color ink jet images.

Conclusion

Art Unit: 2853

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tripp (US Pat 3593661) discloses dry ink-film printing.

Ikeda (US Pat 4526487) discloses a multicolor ink ribbon cassette.

Moteki et al (US Pat 4540992) discloses a thermal color transfer system.

Polierer (US Pat 6530657) discloses an ink jet printer with a piezo printing head for ejecting lactate ink onto an uncoated printing medium.

Miyasaka et al (US Pat 6270215) discloses an inkjet printer.

Rhodes et al (DE Pat 10002093A1) discloses the outer surface of a printed sheet feeder roller has vacuum suction channels to hold the leading and tailing edges of cut sheets down with the outer surface having a pattern of raised ribs with the suction acting between the ribs.

Piatt et al (US Pat 4761664) discloses a print media handling system for compact printer with traversing, multiple print head carriage.

Cleary et al (US Pat 4769652) discloses a method and apparatus for handling sheet materials.

Gordon et al (US Pat 4811038) discloses an ink jet printing system and drum therefore.

Hesterman (US Pat 6789475) discloses a satellite printing machine for printing sheets.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148.

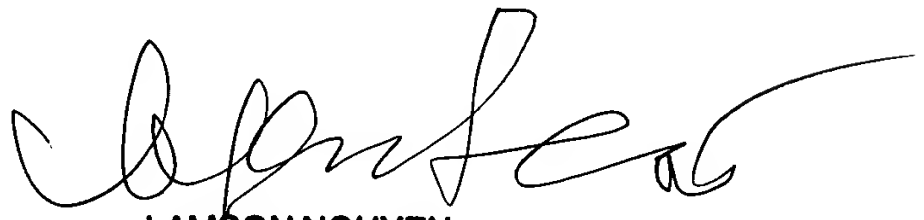
The examiner can normally be reached on 8:30-5 Monday-Friday.

Art Unit: 2853

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lsl LSL


LAMSON NGUYEN
PRIMARY EXAMINER
04/18/07